UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,019	08/07/2003	Akihiko Nishide	16CT01060	1013

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Patrick W. Rasche
Armstrong Teasdale LLP
Suite 2600
One Metropolitan Square
St. Louis, MO 63102

EXAMINER
CHU, RANDOLPH I

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2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/636,019	NISHIDE, AKIHIKO
	Examiner	Art Unit
	Randolph Chu	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 August 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>8/7/2003</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-3, 6, 13, 14, and 17-19 are rejected under 35 U.S.C. 102(b) as being

anticipated by Ciuc et al. ("Adaptive neighborhood speckle removal in multitemporal

synthetic aperture radar images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages

5954-5966).

With respect to Claim 1, Ciuc et al. teaches a coefficient adapting device for

changing coefficients of said three-dimensional spatial filter according to a property of a

pixel value in said three-dimensional image (Pages 5957 – 5958).

With respect to Claim 2, Ciuc et al. teaches that said property is a pixel value of a

pixel-of-interest in the three-dimensional image convoluted with the filter (Pages 5957 –

5958).

With respect to Claim 3, Ciuc et al. teaches that said property is an average value of pixel values of the pixel-of-interest in the three-dimensional image convoluted with the filter and its neighboring pixels (Pages 5961 – 5962).

With respect to Claim 6, Ciuc et al. teaches that said property is a median value of pixel values of the pixel-of-interest in the three-dimensional image convoluted with the filter and its neighboring pixels. (Page 5958).

With respect to Claim 13, Ciuc et al. teaches that the coefficients of the three-dimensional spatial filter are adapted depending upon, as said property, a property of a pixel value of the pixel-of-interest in the three-dimensional image convoluted with the filter or its neighboring pixels (Pages 5957 – 5958).

With respect to Claim 14, Ciuc et al. teaches that a standard deviation of the pixel-of-interest in the three-dimensional image convoluted with the filter and its neighboring pixels is employed as an indicator of said property (Page 5958).

With respect to Claim 17, please refer to rejection for claim 1.

With respect to Claim 18, please refer to rejection for claim 2.

With respect to Claim 19, please refer to rejection for claim 3.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4, 5 and 20 are rejected under 35 USC 103(a) as being unpatentable

over Ciuc et al. ("Adaptive neighborhood speckle removal in multitemporal synthetic

aperture radar images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966)

in view of Levantovsky (US 6,614,944).

With respect to claim 4, Ciuc et al. discloses all the limitations of claim 1 as applied

above from which claim 4 respectively depend.

        Ciuc et al. does not disclose expressly that said property is a maximum value of

pixel values of the pixel-of-interest.

        Levantovsky teaches that said property is a maximum value of pixel values of

the pixel-of-interest (Abstract).

Ciuc et al. and Levantovsky are analogous art because they are in the "same field of

endeavor", image processing.

        At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use maximum value of pixel values as property in the apparatus of Ciuc

et al.

The suggestion/motivation for doing so would have been that threshold value for low pass filter and high pass filter can be determined from maximum value of array of windowed pixels.

Therefore, it would have been obvious to combine Levantovsky with Ciuc et al. to obtain the invention as specified in claim 4.

With respect to claim 5, Ciuc et al. discloses all the limitations of claim 1 as applied above from which claim 5 respectively depend.

Ciuc et al. does not disclose expressly that said property is a minimum value of pixel values of the pixel-of-interest.

Levantovsky teaches that said property is a minimum value of pixel values of the pixel-of-interest (col. 6, lines 8-39).

Ciuc et al. and Levantovsky are analogous art because they are in the "same field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use minimum value of pixel values as property in the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that threshold value for low pass filter and high pass filter can be determined from minimum value of array of windowed pixels.

Therefore, it would have been obvious to combine Levantovsky with Ciuc et al. to obtain the invention as specified in claim 5.

5.   Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al.

("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar

images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view

of Florent (US 5,406,501).

Ciuc et al. discloses all the limitations of claim 1 as applied above from which

claim 7 respectively depend.

Ciuc et al. does not disclose expressly that said property is a maximum value of

absolute values of differences.

Florent teaches that said property is a maximum value of absolute values of

differences(col. 9 lines 31-59).

Ciuc et al. and Florent are analogous art because they are in the "same field of

endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use maximum value of absolute values of differences as property in

the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that moving object can

be emphasized.

Therefore, it would have been obvious to combine Florent with Ciuc et al. to

obtain the invention as specified in claim 7.

6.   Claim 8 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al.

("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar

images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view of Fan

(US 5,359,676).

        Ciuc et al. discloses all the limitations of claim 1 as applied above from which

claim 8 respectively depend.

        Ciuc et al. does not disclose expressly that said property is a maximum value of

squares of differences .

        Fan teaches that said property is a maximum value of squares of differences

(col. 30 lines 43-53).

        Ciuc et al. and Fan are analogous art because they are in the "same field of

endeavor", image processing.

        At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use maximum value of squares of differences as property in

the apparatus of Ciuc et al.

        The suggestion/motivation for doing so would have been that square of the error

can be estimated.

        Therefore, it would have been obvious to combine Fan with Ciuc et al. to obtain

the invention as specified in claim 8.

7.   Claim 9 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al.

("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar

images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view of Lee

(US 2003/0197877).

        Ciuc et al. discloses all the limitations of claim 1 as applied above from which

claim 9 respectively depend.

        Ciuc et al. does not disclose expressly that said property is a minimum value of

absolute values of differences .

        Lee teaches that said property is a minimum value of absolute values of

differences(para. [0063]).

        Ciuc et al. and Lee are analogous art because they are in the "same field of

endeavor", image processing.

        At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use minimum value of absolute values of differences as property in

the apparatus of Ciuc et al.

        The suggestion/motivation for doing so would have been that this is need for

detection for an object is referred to as contrast sensitivity.

        Therefore, it would have been obvious to combine Lee with Ciuc et al. to obtain

the invention as specified in claim 9.

8.   Claim 10 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al.

("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar

images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view of

Maeda et al. (US 6,947,587).

Ciuc et al. discloses all the limitations of claim 1 as applied above from which

claim 10 respectively depend.

Ciuc et al. does not disclose expressly that said property is a minimum value of

squares of differences.

Maeda et al. teaches that said property is a minimum value of squares of

differences (col. 7 lines 44-53).

Ciuc et al. and Maeda et al. are analogous art because they are in the "same

field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use minimum value of squares of differences as property in

the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that this can

substantially reduce the gradation deffernece in image and in thus it is much

appropriate for the comparative and inspection.

Therefore, it would have been obvious to combine Maeda et al. with Ciuc et al. to

obtain the invention as specified in claim 10.

9.   Claims 11 and 12 are rejected under 35 USC 103(a) as being unpatentable over

Ciuc et al. ("Adaptive neighborhood speckle removal in multitemporal synthetic aperture

radar images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view

of Shimura et al. (US 5,850,465).

With respect to claim 11, Ciuc et al. discloses all the limitations of claim 1 as

applied above from which claim 11 respectively depend.

Ciuc et al. does not disclose expressly that said property is a median value of absolute

values of differences .

Shimura et al. teaches that said property is a median value of absolute values of

differences (col. 24 line 44 - col. 25 line 7).

Ciuc et al. and Shimura et al. are analogous art because they are in the "same

field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use median value of absolute values of differences as property in

the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that mean level value

can be calculated various way. median value of absolute values of differences is the

one of methods (Shimura et al., col. 24 line 44 - col. 25 line 7).

Therefore, it would have been obvious to combine Shimura et al. with Ciuc et al.

to obtain the invention as specified in claim 11.

With respect to claim 12, Ciuc et al. discloses all the limitations of claim 1 as

applied above from which claim 12 respectively depend.

Ciuc et al. does not disclose expressly that said property is a median value of squares of differences .

Shimura et al. teaches that said property is a median value of squares of differences (col. 24 line 44 - col. 25 line 7).

Ciuc et al. and Shimura et al. are analogous art because they are in the "same field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use median value of squares of differences as property in the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that mean level value can be calculated various way. median value of squares of differences is the one of methods (Shimura et al., col. 24 line 44 - col. 25 line 7).

Therefore, it would have been obvious to combine Shimura et al. with Ciuc et al. to obtain the invention as specified in claim 12.

10.   Claim 15 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al. ("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view of Sun et al. (US 2002/0009230).

Ciuc et al. discloses all the limitations of claim 1 as applied above from which claim 15 respectively depend.

Ciuc et al. does not disclose expressly that said property is a sum of absolute values of differences .

Shimura et al. teaches that said property is a sum of absolute values of differences (para. [0003]).

Ciuc et al. and Shimura et al. are analogous art because they are in the "same field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use sum of absolute values of differences as property in the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that sum of absolute differences are inexpensive way of computer implementation of calculating statistical cirrelation measure.

Therefore, it would have been obvious to combine Shimura et al. with Ciuc et al. to obtain the invention as specified in claim 15.

11.   Claim 16 is rejected under 35 USC 103(a) as being unpatentable over Ciuc et al. ("Adaptive neighborhood speckle removal in multitemporal synthetic aperture radar images", Applied Optics. Nov. 10 2001, Vol. 40 no. 32 pages 5954-5966) in view of Nishiguchi et al. (US 6,167,144).

Ciuc et al. discloses all the limitations of claim 1 as applied above from which claim 16 respectively depend.

Ciuc et al. does not disclose expressly that said property is a square sum of differences.

Shimura et al. teaches that said property is a square sum of differences (col. 4 lines lines 56-67).

Ciuc et al. and Shimura et al. are analogous art because they are in the "same field of endeavor", image processing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use square sum of differences as property in the apparatus of Ciuc et al.

The suggestion/motivation for doing so would have been that sooth area can be detected based on the moment of inertia value.

Therefore, it would have been obvious to combine Shimura et al. with Ciuc et al. to obtain the invention as specified in claim 16.

With respect to claim 20, please refer to rejection for claim 4.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randolph Chu whose telephone number is 571-270-1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Joseph Mancuso can be reached on 571-272-7695. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

RIC/

JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER